INTRODUCTION

The SMART Corridors project is a cooperative effort by the Alameda County Congestion Management Agency (CMA), Contra Costa County Transportation Authority (CCTA), and twenty-four other agencies to plan and implement a multi-modal advanced transportation management system along the San Pablo Avenue (I-80); and International Blvd/E. 14th/San Leandro St/Hesperian/Union City Blvd (I-880) corridors.

The goal of the project is to allow the participating agencies to better manage congestion and incidents along regional routes, to improve transportation mobility, efficiency and safety, while providing timely and multi-modal transportation information to the transportation managers and to the public.

SMART Corridors use a variety of technologies to improve the performance of transportation systems, promoting efficient use of the existing highway and transit systems, while increasing safety and mobility, and reducing environmental costs to the public. The application of current and evolving technologies to transportation systems and the careful integration of these functions will provide more effective solutions to multi-modal and regional transportation requirements. The development and successful implementation of this project, and other similar SMART Corridors projects, will serve as a roadmap for long-term direction of Intelligent Transportation Systems (ITS) deployment in the region.

The participating agencies have selected Kimley-Horn and Associates, Inc. to plan, design, and implement the SMART Corridor program for the San Pablo Avenue, and International Blvd/E. 14th/San Leandro St/Hesperian/Union City Blvd (I-880) corridors. The project is divided into four phases:

- Phase I - Strategic Plan (Systems Engineering Study)
- Phase II - Design and Preparation of Plans, Specifications and Estimates
- Phase III - Construction
- Phase IV - Integration, Testing and Systems Acceptance

A Systems Engineering Report was prepared to confirm agency needs, review alternatives, and develop requirements for project design, integration and implementation. The design of the project is completed and the construction is expected to begin by Spring 2002. The project is expected to be completed and operational by January 2003.

Agreements have been developed for construction, ownership, operations and management of the completed system.

PROJECT OVERVIEW

Background

The ***East Bay*** SMART Corridors program has evolved into a multi-year, multi-phase program which started through cooperative efforts of the local agencies in the San Pablo Avenue and I-880 corridors. Since 1995 there has been a number of major efforts in the corridors to implement various infrastructure improvements and strengthened the inter-agency coordination and cooperation. Since 1995, five major regional efforts have been undertaken to address the transportation requirements along these corridors, as listed below:

- East 14th Street Signal Interconnect Project
- Hesperian Boulevard Signal Interconnect Project
- San Pablo Avenue Signal Interconnect Project
- Hesperian Boulevard Transit Priority Project
- Data and Video Exchange Project
- San Pablo Avenue Transit Study

The current project is the continuation of these efforts to further advance the transportation management solutions along the San Pablo and I-880 corridors.

Project Participants

The ***East Bay*** SMART Corridor program has developed into a cooperative effort by a coalition of fifteen communities in Alameda and Contra Costa counties, along with congestion management, regional, state, federal, and transit agencies. There are a total of twenty-four participants in the current SMART Corridors program. The following are the current agencies involved with project:

- Alameda County Congestion Management Agency (CMA)
- Contra Costa Transportation Authority (CCTA)
- West Contra Costa Transportation Advisory Committee (WCCTAC)
- Metropolitan Transportation Commission (MTC)
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- California Department of Transportation (Caltrans)
- AC Transit
- Western Contra Costa Transit Authority (WestCAT)
- Union City Transit
- Alameda County
- Contra Costa County
- City of Albany

- City of Berkeley
- City of El Cerrito
- City of Emeryville
- City of Hayward
- City of Hercules
- City of Pinole
- City of Richmond
- City of Oakland
- City of San Leandro
- City of San Pablo
- City of Union City

Goals and Objectives

The goal of the ***East Bay*** SMART Corridor program is to allow local agencies to better manage congestion and improve transportation mobility, efficiency and safety along regional arterial routes. SMART Corridors permit efficient operation and management of existing roadway and transit resources through the integration and use of currently available technologies, combined with strengthened institutional ties and inter-jurisdictional coordination.

A Concept of Operations plan was prepared by Metropolitan Transportation Commission that identified the goals and objectives of the SMART Corridor program for the San Pablo Avenue and I-880 corridors. The following goals and objectives were identified by the project participants for the two corridors:

Local Arterial Operations

- Improve traffic signal coordination and reduce delays along major corridors, which is responsive to fluctuations in demand.
- Improve collection and dissemination of current travel conditions along the arterials.
- Provide accurate and timely information about the corridors to the transportation manager and to the public.

Freeway/Arterial Operation

- Minimize the intrusion of freeway traffic to local streets due to freeway congestion and freeway incidents.
- Proactively manage traffic already diverted from the freeway to minimize its impact on local arterials, and return regional traffic back to the freeway as soon as possible.

- Provide for rapid response to and clearing of incident on both the freeway and surface streets.

Transit Operations

- Improve on-time performance of transit service.
- Reduce the travel times for transit buses.
- Provide accurate and timely bus arrival information.

Interagency Coordination

- Improve sharing of resources between agencies for a more unified transportation management operation along the corridors.
- Share traffic information between the agencies to improve coordination and management activities.
- Allow control of the system components by other agencies, if desired.

CORRIDOR DESCRIPTION

San Pablo Avenue and I-80 Corridor

Arterial Description

The San Pablo Avenue is one of the major travel corridors in San Francisco Bay Area, and is included in MTC's Routes of Regional Significance. The corridor is approximately 20 miles and extends from 17th Street in downtown Oakland to the City of Hercules, through the cities of Emeryville, Berkeley and Albany in Alameda County; and cities of El Cerrito, Richmond, San Pablo, Pinole, Hercules and unincorporated portions of Contra Costa County. There are approximately 85 traffic signals between along the project corridor. The current (1998) Average Daily Traffic (ADT) on San Pablo Avenue is between 25,000 to 35,000 vehicles per day. San Pablo Avenue is also State Route 123 from McArthur Blvd in Emeryville to Cutting Blvd in Richmond.

Transit Service

San Pablo is a major regional transit route, serving the local and regional transportation systems. This corridor is served by AC Transit from Richmond Parkway to downtown Oakland. The corridor follows bus line 72 from Hilltop Mall in Richmond, and bus line 73 from Point Richmond to the Amtrak Station in Oakland. Current bus service in the corridor carries close to 14,000 daily riders. In the western portion of the corridor, the corridor is served by

WestCAT, which follows bus line J from Richmond Parkway to Transit Center, near Highway 4.

Freeway Description

I-80 is a major regional freeway extending from Downtown San Francisco to the City of Sacramento. I-80 is an eight-lane freeway in this section, with existing HOV lanes in both directions. Currently there are no ramp meters on I-80 along this segment of the freeway. The existing (1998) ADT on I-80 is between 115,000 to 260,000 vehicles per day.

Arterial to Freeway Connectors

Arterial to freeway connectors are those roadways that connect San Pablo Avenue to I-80 and are suitable for regional traffic traveling between the two corridors. These roadway are listed as follows:

- John Muir Highway in Hercules
- Richmond Parkway in Richmond
- San Pablo Dam Road in San Pablo
- Cutting Blvd in Richmond
- Portero Ave/Central Ave in El Cerrito
- Buchanan Street in Albany
- Gilman Street in Berkeley
- University Avenue in Berkeley
- Ashby Avenue in Berkeley/Emeryville
- Grand Avenue in Oakland

There are a total of 27 signalized intersections along these connector arterials between San Pablo Avenue and I-80.

Other roadways in the corridor that are more suitable to serve the local traffic include Pinole Valley Road, Appian Way and Powell Street.

International Blvd/East 14th St/San Leandro St/Hesperian Blvd/Union City Blvd and I-880 Corridor

Arterial Description

The arterials along the I-880 corridor consist of International Blvd, East 14th Street, San Leandro Street, Hesperian Blvd, and Union City Blvd, forming a major regional route in the southern portion of Alameda County. The corridor is approximately 18 miles and traverses parallel to Highway 880 from downtown Oakland to the City of Union City. The corridor begins in West

Oakland, near 14th Street and extends south to the City of Union City. In the City of San Leandro, the corridor changes name to East 14th Street. In addition, San Leandro Street connects to and extends parallel to East 14th Street from 42nd Street to 136th Ave, serving the regional traffic to the I-880 freeway. East 14th Street extends to the City of Hayward, through unincorporated areas of Alameda County, to intersect Hesperian Boulevard. Hesperian Boulevard extends south to the City of Union City, where it changes name to Union City Boulevard. There are 88 traffic signals along the corridor, including 17 traffic signals along San Leandro Street. The current (1998) Average Daily Traffic (ADT) on International Blvd/East 14th/San Leandro St/Hesperian/Union City Blvd is between 15,000 to 40,000 vehicles per day.

Transit Service

International Boulevard/East 14th Street, and Hesperian Boulevard are major transit routes, serving the local and regional transportation systems. This corridor is served by AC Transit from West Oakland to Hayward BART Station, along International Blvd/East 14th Street, and from Bay Fair BART Station to Alvarado Nile Road in Union City, along Hesperian Boulevard. The corridor follows bus line 82 along International Blvd/East 14th Street and Route 97 along Hesperian Blvd. In the southern portion of the corridor, the corridor is served by Union City Transit. Transit service along the corridors include bus lines 1A, 1 B and 3.

Freeway Description

I-880 is a major regional freeway extending from Santa Clara County to I-80. I-880 is an eight-lane freeway, with existing HOV lanes along portions of the freeway. Ramp meters have been installed and are operational along the entire length of I-880 in Alameda County. The ADT on I-880 is between 174,000 to 243,000 vehicles per day. I-880 is also a major intermodal and truck route, serving Port of Oakland and the industrial areas in West Oakland.

Arterial to Freeway Connectors

Arterial to freeway connectors that connect International Blvd/San Leandro Blvd, Hesperian Blvd, Union City Blvd and I-880 are listed as follows:

- 42nd Avenue in Oakland
- 66 Ave in Oakland
- Hegenberger Road in Oakland
- 98th Avenue in Oakland
- Davis Street in San Leandro

- Marina Boulevard in San Leandro
- "A" Street in Hayward
- Winton Avenue in Hayward
- Highway/92 Jackson in Hayward
- Tennyson Road in Hayward
- Industrial Parkway n Hayward
- Whipple Road in Union City
- Alvarado-Niles/Smith Street Boulevard in Union City

There are a total of 40 signalized intersections along these arterials between San Pablo Avenue and I-880.

Additional Information

For additional information about the project, please contact Mr. Cyrus Minoofar, Program Manager at (510) 836-2560, or visit the project web site at smartcorridors.net